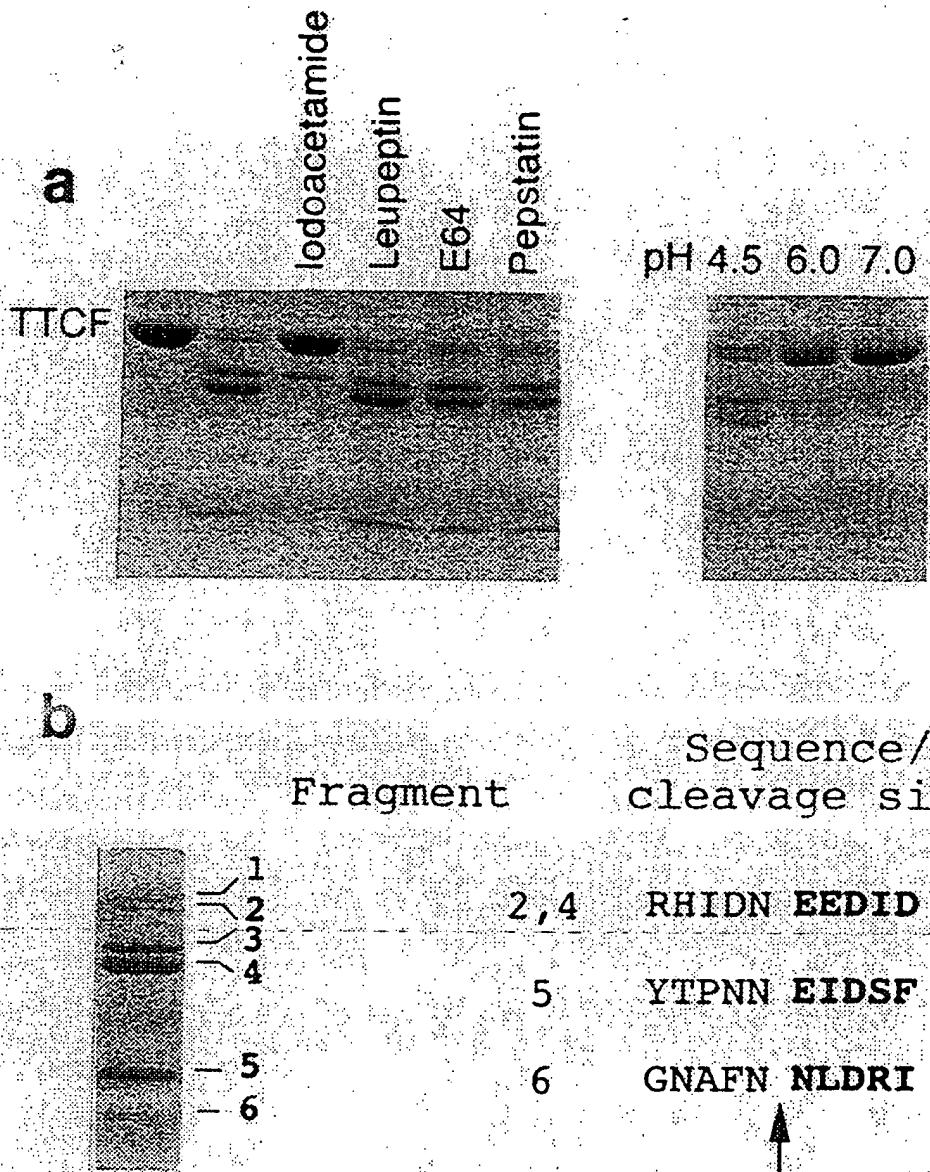


Fig. 1 (page 2 of 2)

Fig. 1 (page 1 of 2)

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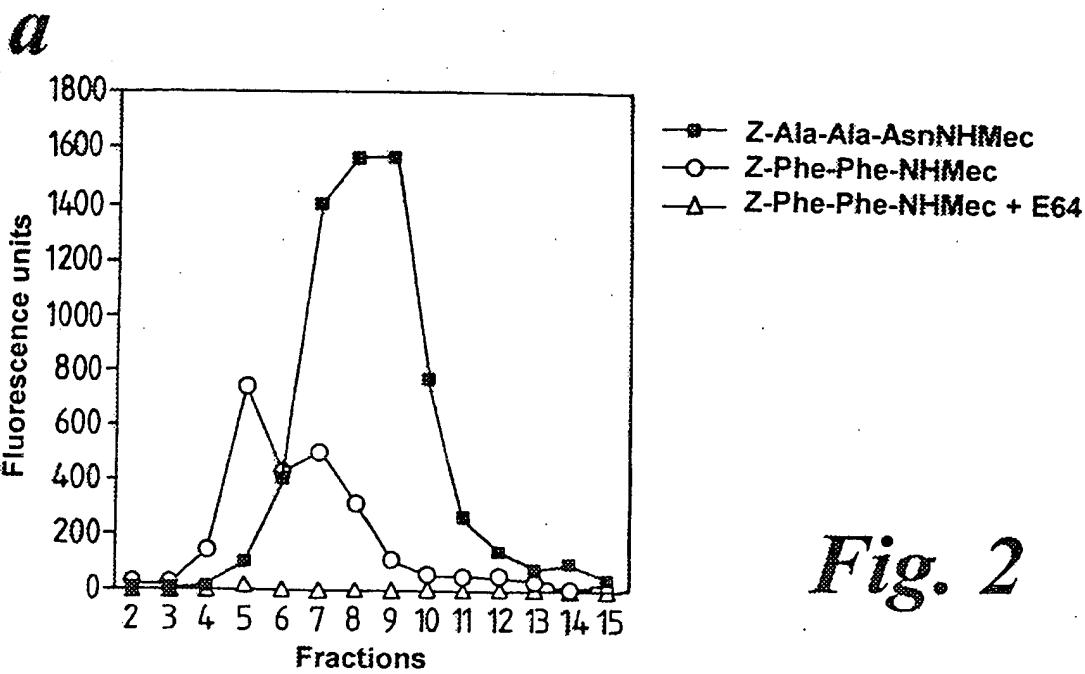
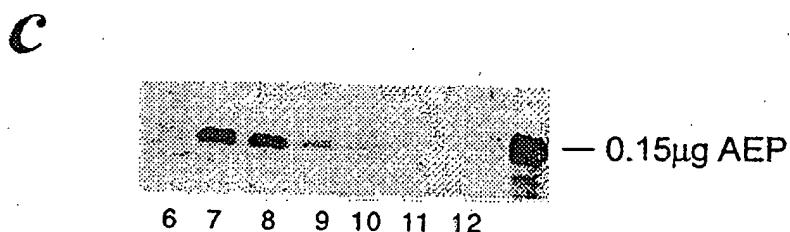
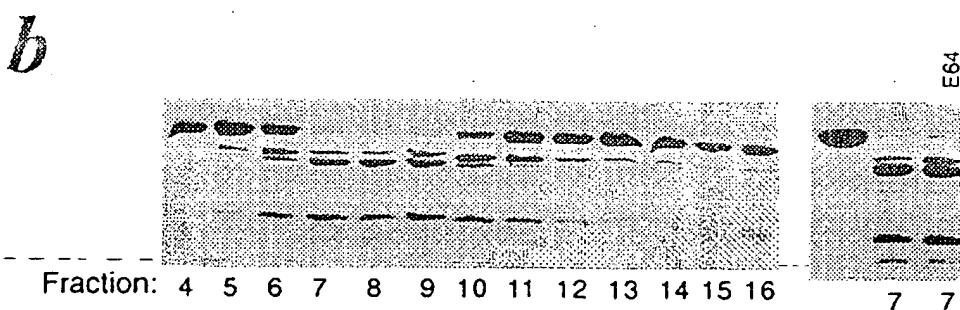


Fig. 2



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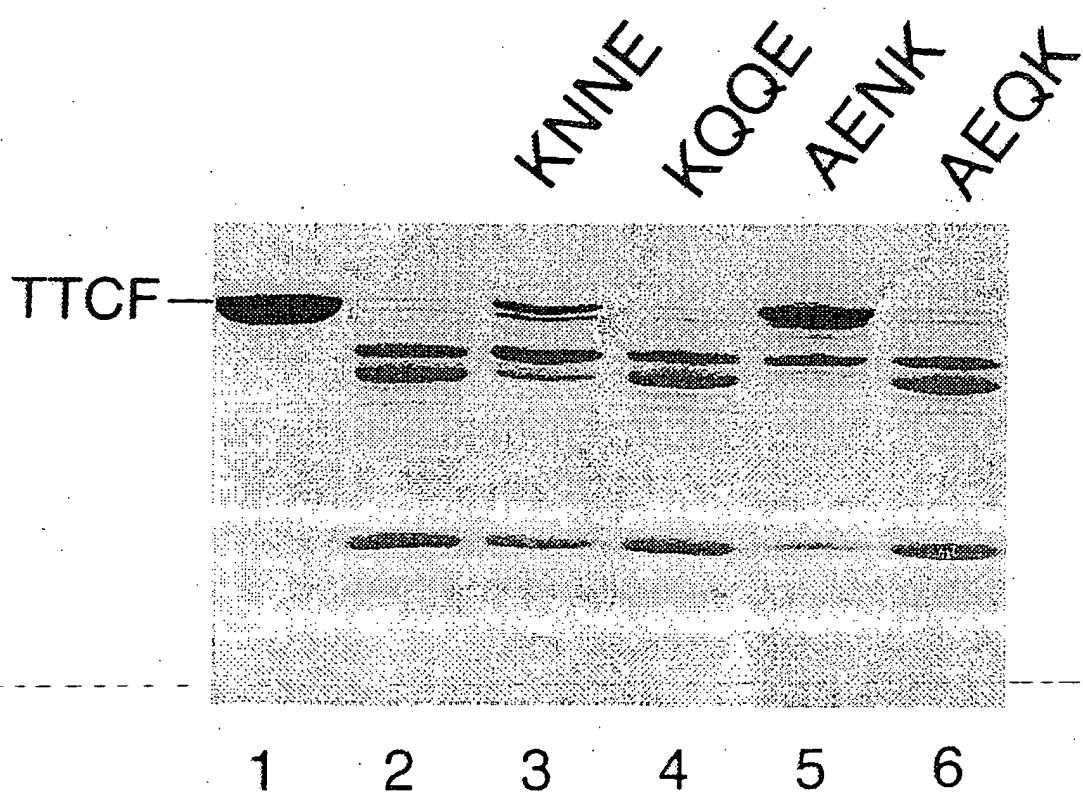


Fig. 3a

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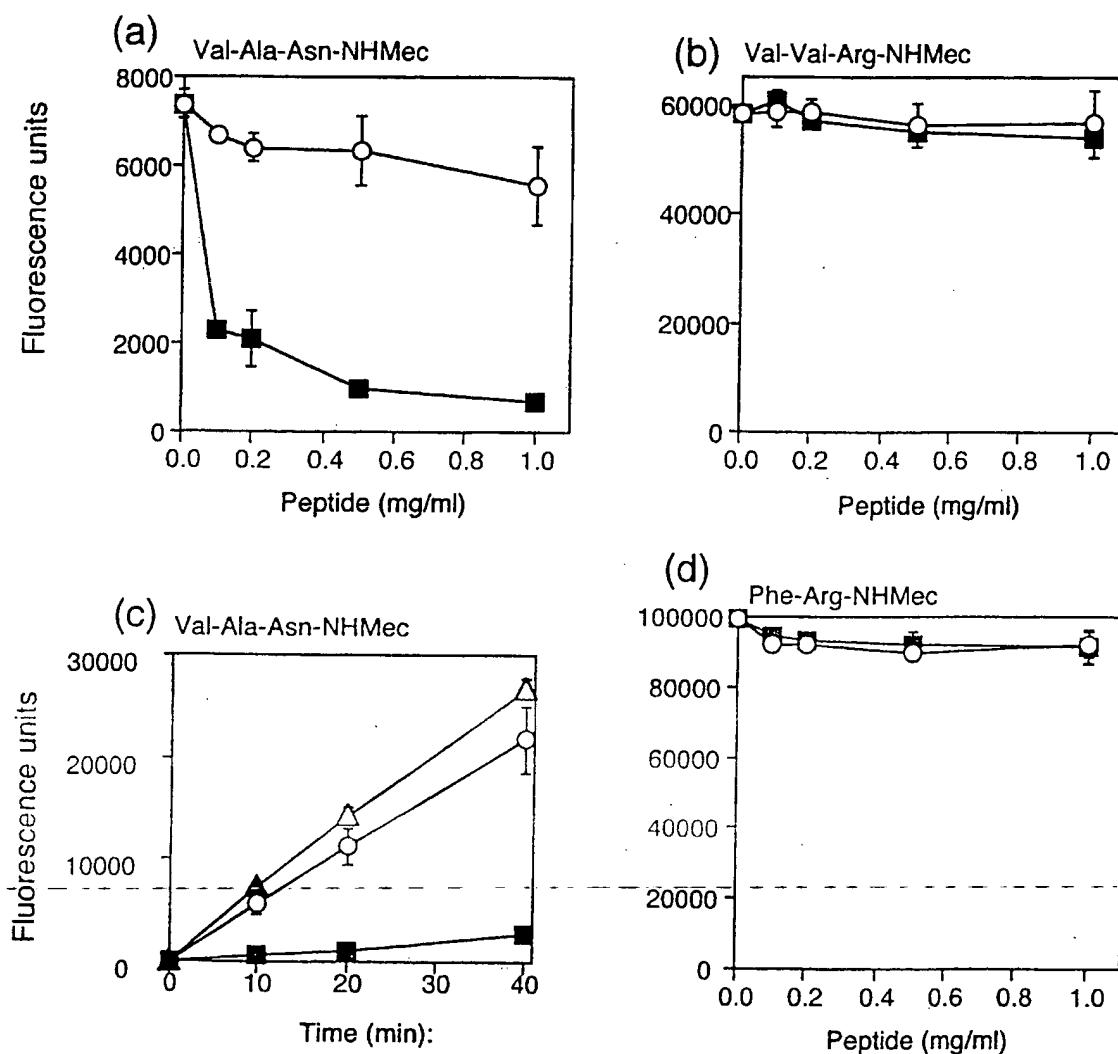
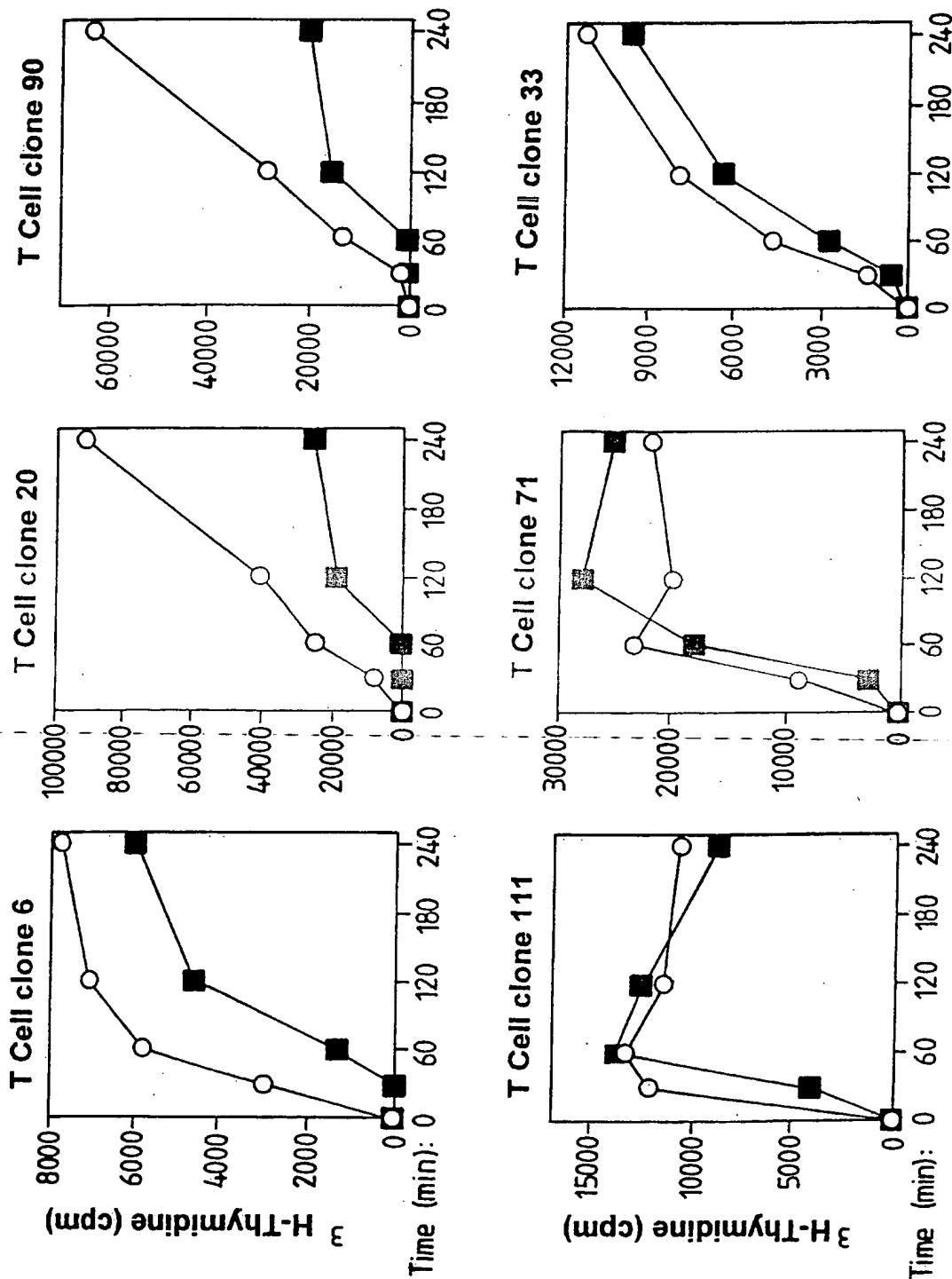


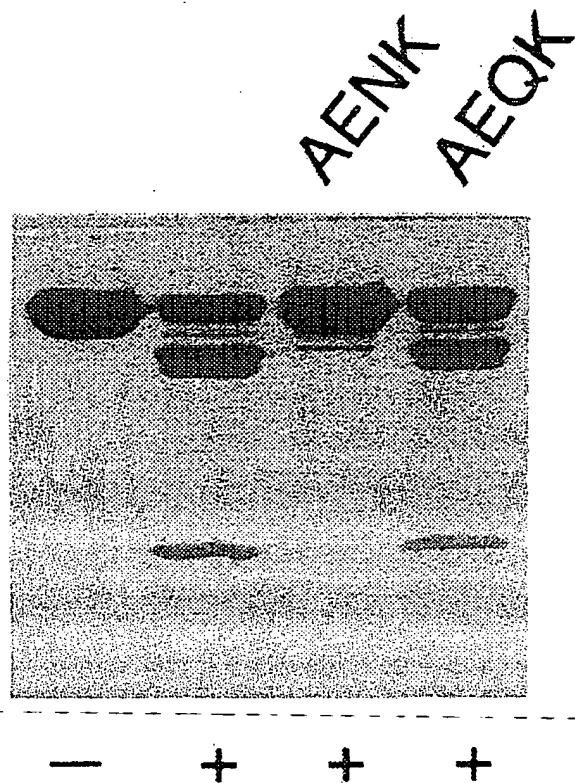
Fig. 3b

Fig. 3c



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Fig. 3d

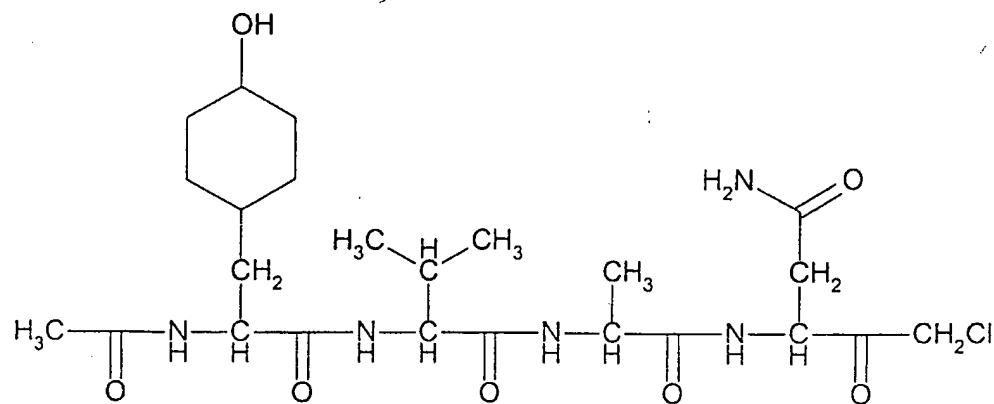


Human B cell AEP
± 1.0 mg/ml peptide

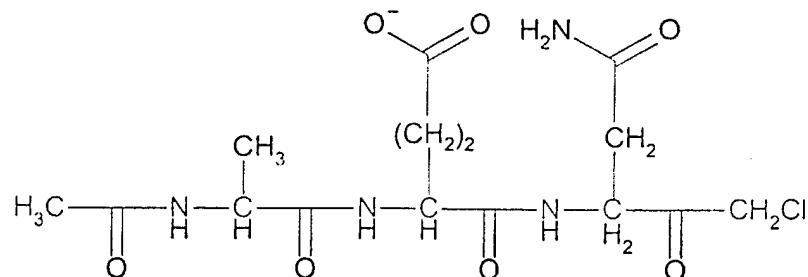
Figure 4 (page 1 of 6)

Peptidyl chloromethylketones (ref 5)

(i) Acetyl-tyrosyl-valyl-alanyl-asparaginyl-chloromethylketone
(analogous to ICE protease inhibitor YVAD-cmk)



(ii) Acetyl-alanyl-glutamyl-asparaginyl-chloromethylketone



(iii) Acetyl (or benzyloxycarbonyl)-(X)_n-asparaginyl-chloromethylketone

Where X = any amino acid

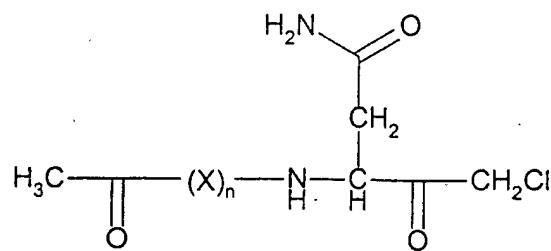
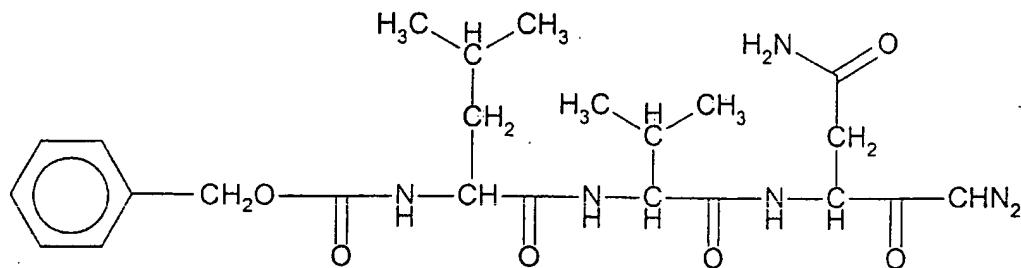


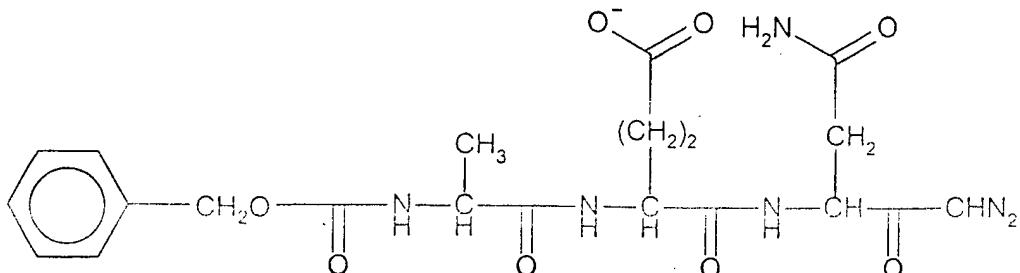
Figure 4 (page 2 of 6)

Peptidyl diazomethanes (ref 3,4)
(have the general structure: R-C(=O)CHN₂)

(i) Benzyloxycarbonyl-leucyl-valyl-asparaginyl-diazomethane



(ii) Alanyl-glutamyl-asparaginyl-diazomethane



(iii) Z-(X)_n-asparaginyl-diazomethane

Where BI = acetyl or benzyloxycarbonyl and X = any amino acid

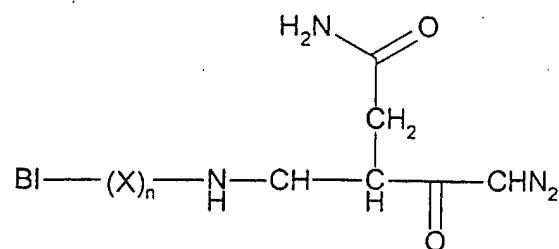
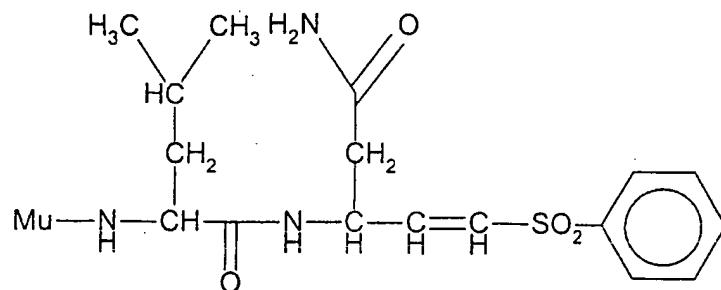


Figure 4 (page 3 of 6)

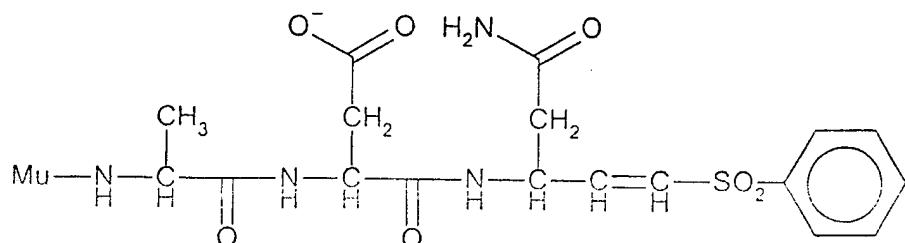
Peptidyl vinyl sulphones (ref 6)

(i) Morpholinurea-leucyl-asparaginyl-vinylsulphone-phenyl
(Acetyl or benzyloxycarbonyl can replace morpholinurea)



Mu - morpholinurea

(ii) Morpholinurea-alanyl-glutamyl-asparaginyl-vinylsulphone-phenyl
(Acetyl or benzyloxycarbonyl can replace morpholinurea)



(iii) BI-(X)_n-asparaginyl-vinylsulphone-R

Where BI = N-terminal blocking group (acetyl, morpholinurea or benzyloxycarbonyl), X = any amino acid and R = alkyl or aryl terminating group

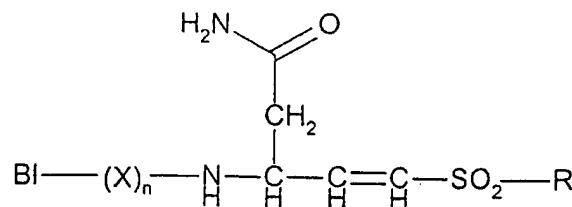
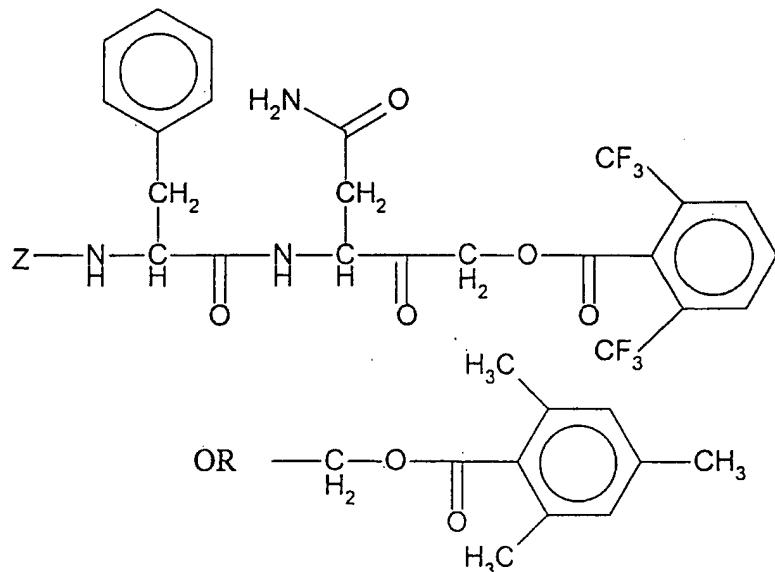


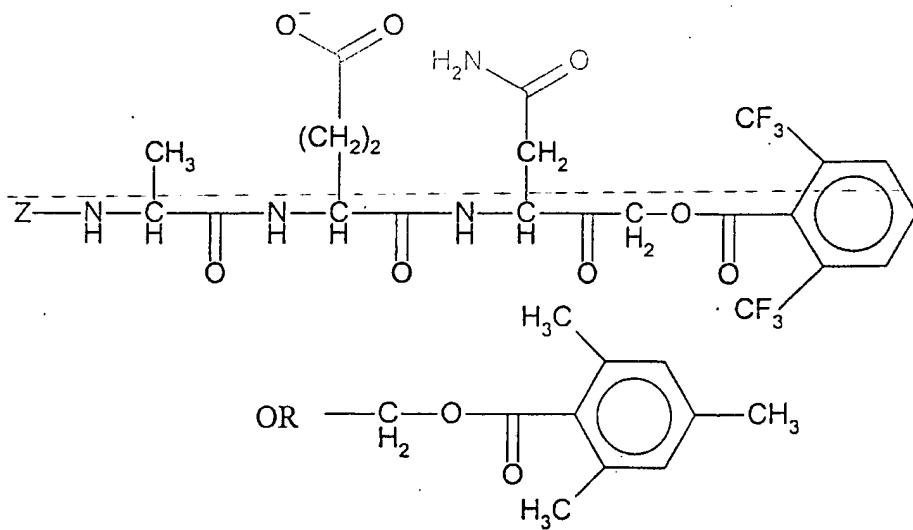
Figure 4 (page 4 of 6)

Peptidyl (acyloxy) methanes (ref 7)

- (i) Z-Phenylalanyl-asparaginyl-CH₂OCO-[2,6-(CF₃)₂Phenyl]
- (ii) Z-Phenylalanyl-asparaginyl-CH₂OCO-[2,4,6-(CH₃)₃ Phenyl]



- (iii) Z-alanyl-glutamyl-asparaginyl-CH₂OCO-[2,6-(CF₃)₂Phenyl]
- (iv) Z-alanyl-glutamyl-asparaginyl-CH₂OCO-[2,4,6-(CH₃)₃ Phenyl]

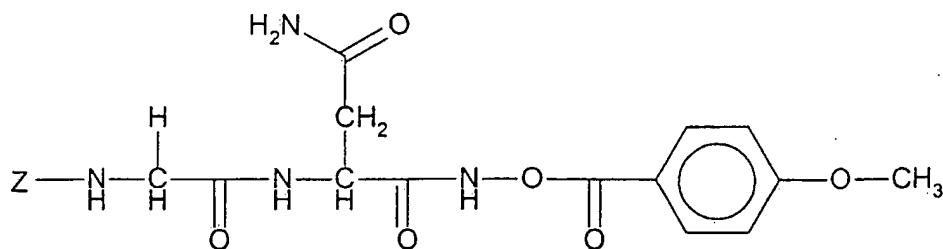


- (v) Z-(X)_n-asparaginyl-CH₂OCO-R

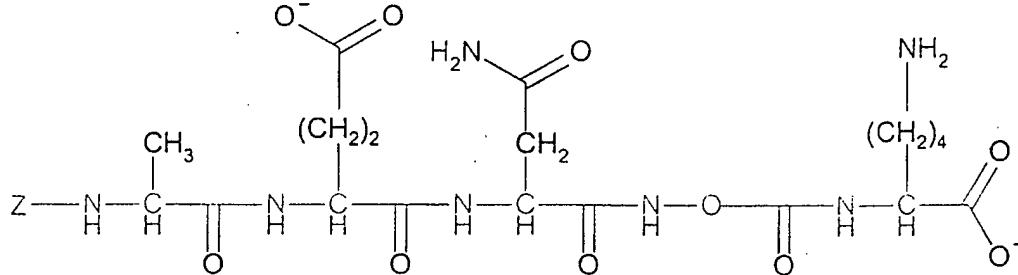
Where X = any amino acid and R = [2,6-(CF₃)₂Phenyl] or [2,4,6-(CH₃)₃ Phenyl] or other acyloxy methane group

Figure 4 (page 5 of 6)

N,O-diacyl hydroxamates (ref 8)

(i) Z-Glycyl-asparaginyl-NHO-benzoyl(4-OCH₃)

(ii) Z-alanyl-glutamyl-asparaginyl-NHO-CO-lysine-NH

(iv) Z-(X)_n-asparaginyl-NHO-CO-R

Where Z = benzyloxycarbonyl or other blocking group,
 X = any amino acid and R = any O-acyl group

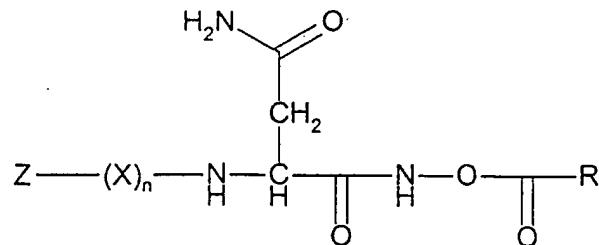
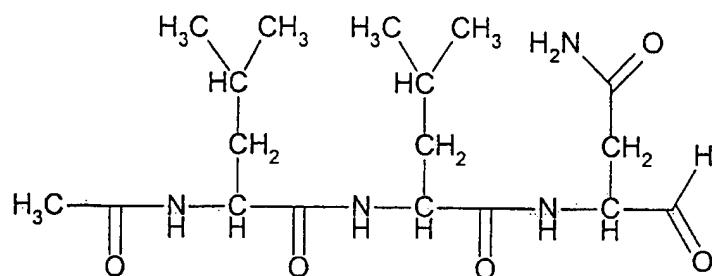


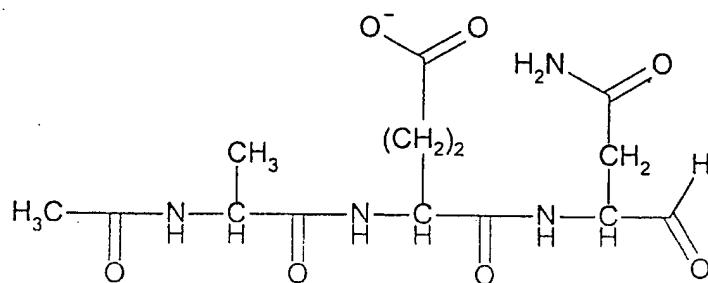
Figure 4 (page 6 of 6)

Peptide aldehydes (refs 1 & 2)

(i) Acetyl-leucyl-leucyl-asparaginal



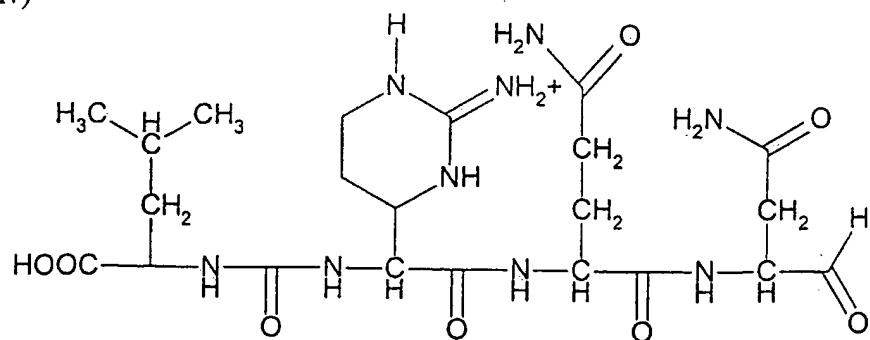
(ii) Acetyl-alanyl-glutamyl-asparaginal

(iv) Acetyl (or other blocking group)-(X)_n-Asparaginal

-where X denotes any amino acid(s) in peptide linkage

Elastinal also blocks AEP. A more specific variant would be:

(iv)



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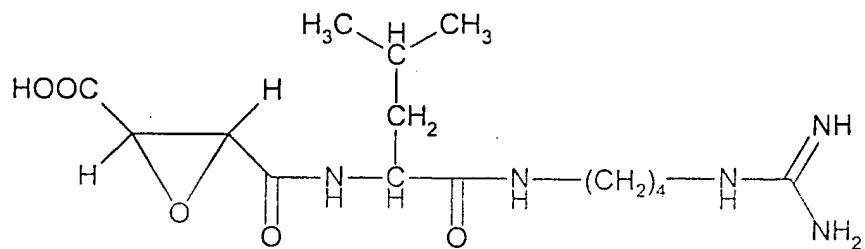
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Figure 5 (page 1 of 6)

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Structure: L-trans-epoxysuccinyl-leucylamide-(4-guanido)-butane or
N-[N-(L-trans-carboxyoxiran-2-carbonyl)-L-leucyl]-agmatine



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Figure 5 (page 2 of 6)

Leupeptin

Structure: Acetyl-leucyl-leucyl arginal

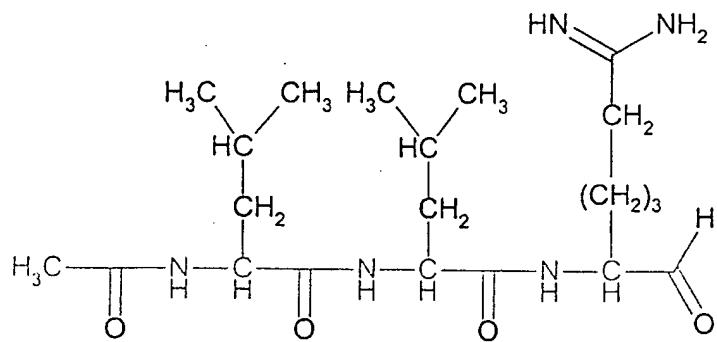


Figure 5 (page 3 of 6)

Antipain

Structure: [(S)-1-Carboxy-2-Phenyl]-carbamoyl-Arg-Val-arginal

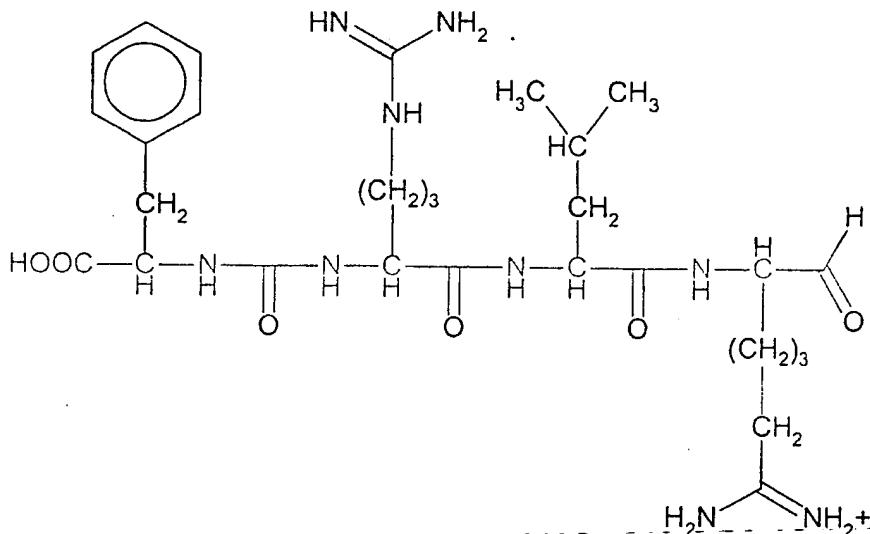


Figure 5 (page 4 of 6)**Elastinal**

Structure: Leu-(Cap)-Gln-Ala-al,
N-[(S)-1carboxy-isopentyl)-carbamoyl-alpha-(2-iminohexahydro-4(S)-
pyrimidyl]-L-glycyl-L-glutaminyl-L-alaninal

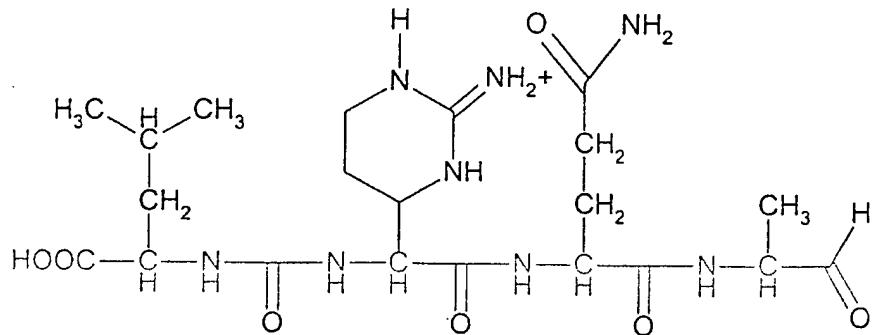


Figure 5 (page 5 of 6)

TLCK

Structure: Tosyl Lysyl ChloromethylKetone:
1-Chloro-3-tosylamido-7-amino-2-heptanone

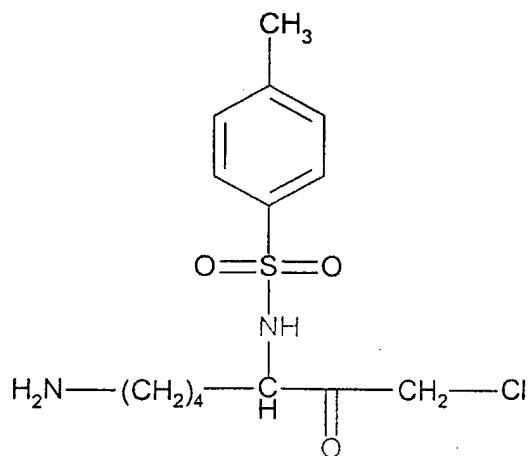


Figure 5 (page 6 of 6)

TPCK

Structure: Tosyl Phenylalanyl ChloromethylKetone:
1-Chloro-3-tosylamido-4-phenyl-2-butanoine

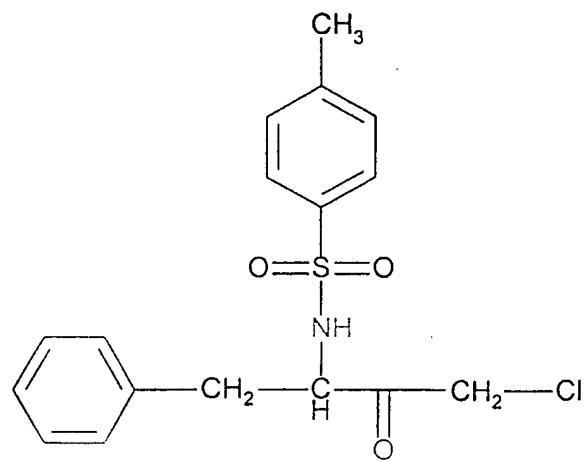
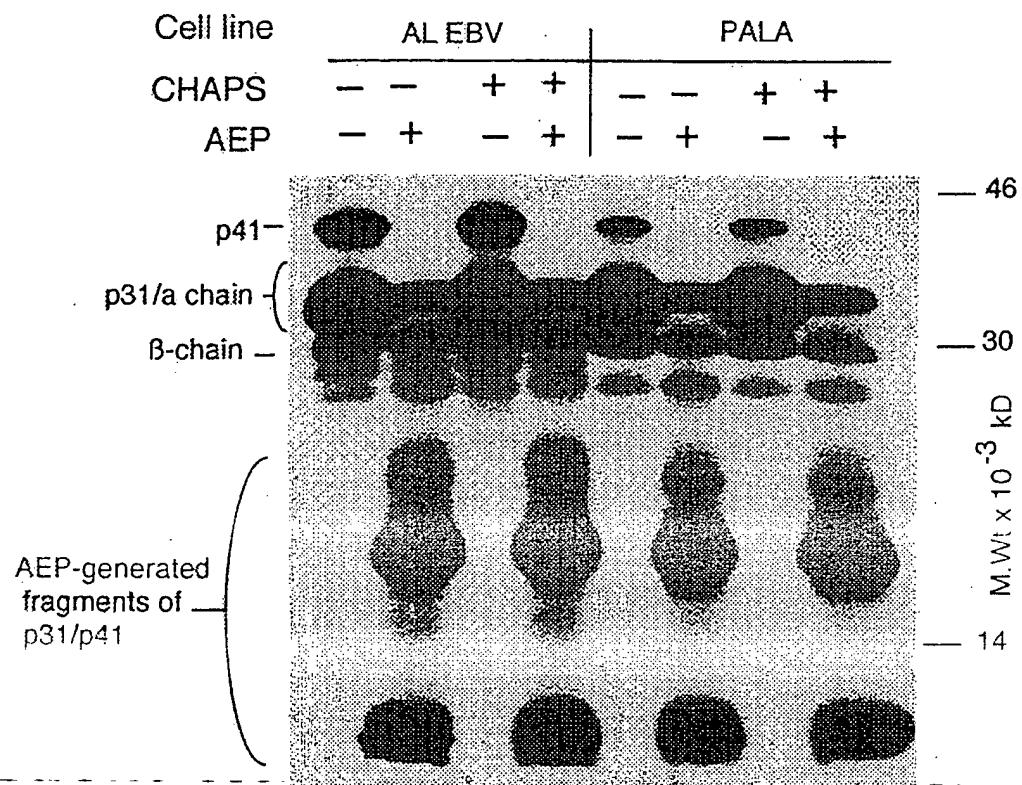


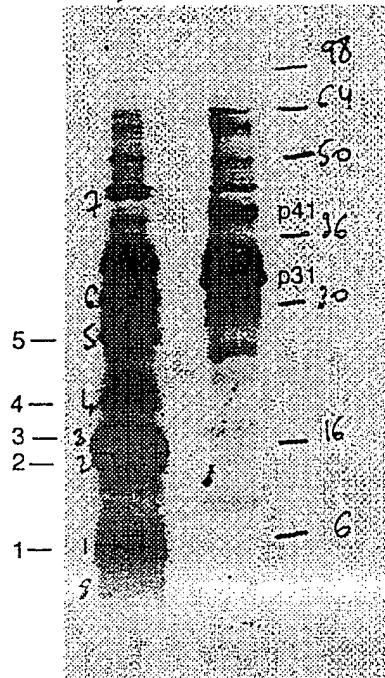
Fig. 6

AEP processing of the invariant chain

(a)

VIC $\gamma 1$ precipitate

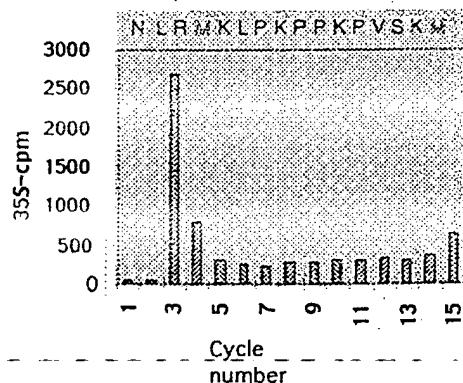
AEP + -

*Fig. 7*

(b) N-terminal sequence of bands below

- Band 1: N NEQLPM (Peak cycle 5/6)
- Band 2: N TMETI (Peak cycle 2)
- Band 3: N LRMK (Peak cycle 3)
- Band 4: N LRMK
N NEQLPM (Peaks at cycles 3 & 6)
- Band 5: N LRMK

Example raw data from band 5



(c)

MDDQRDLISNNEQLPMLGRRPGAPESKCSRGALYTGFSILVTLLL
 AGQATTAYF
 QQGRLDKLTVTSQNLQLENLRMKLPKPKPKPVSKMRMATPLL
 MQLPMGALPQG
 QNATKYGNMTEDHVMHLLQNADPLKVYPPPLKGSPENLTHL
 KNTMETIDWKVFE
 MHHWLLFEMSRHSLEQKPTDAPPKESLELEDPSSGLGVTKQDLGPVPM

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Fig 8

Identified AEP cleavage sites

Tetanus toxin C fragment

RHIDN EEDID
YTPNN EIDSF
GNAFN NLDRI

Ribonuclease

NGQTN CYQSY
VACKN GQTNC

Ovalbumin

GTSVN VHSSL

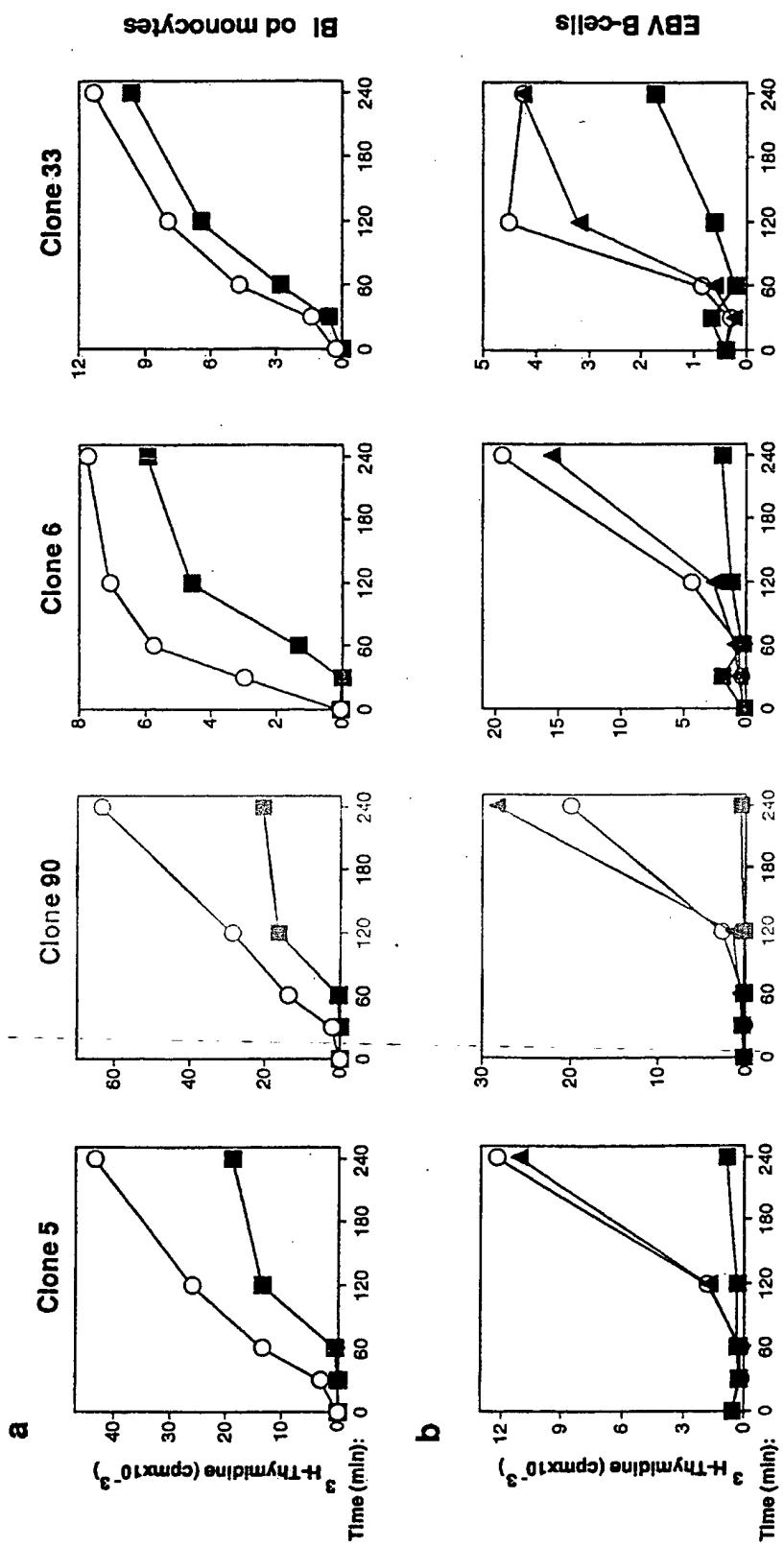
Hen Egg Lysozyme (preferred sites listed first)

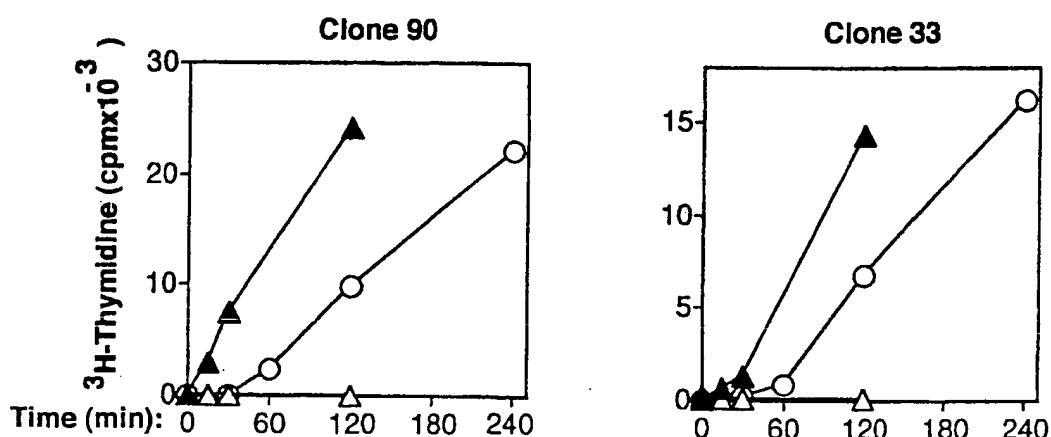
GNGMN AWVAW
HGLDN YRGYS
ILQIN SRWWC
VSDGN GMNAW
RWWCN DGRTP
VAWRN RCKGT

Transferrin peptide (622-642)

LFGSN VTDCS
DCSGN FCLFR

Fig. 9 (page 1 of 2)



*Fig 9 (page 2 of 2)***c****d**